

## 46 TACTICAL MISSILE SQUADRON



### MISSION

#### LINEAGE

46 Transport Squadron constituted, 30 May 1942

Activated, 15 Jun 1942

Redesignated 46 Troop Carrier Squadron, 4 Jul 1942

Redesignated 46 Troop Carrier Squadron, Medium, 10 Apr 1948

Inactivated, 1 Apr 1949

46 Air Defense Missile Squadron (BOMARC) constituted, 10 Dec 1958

Activated, 1 Jan 1959

Inactivated, 31 Oct 1972

46 Troop Carrier Squadron (Medium), reconstituted and consolidated with 46 Air Defense Missile Squadron (BOMARC) redesignated 46 Tactical Missile Squadron, 19 Sep 1985. Unit remains inactive

#### STATIONS

Duncan Field, TX, 15 Jun 1942

Bowman Field, KY, 19 Jun 1942

Lawson Field, GA, 10 Oct 1942

Maxton, NC, 3-12 Dec 1942

Garbutt Field Australia, 23 Jan 1943

Port Moresby, New Guinea, 1 Oct 1943

Finschafen, New Guinea, 19 Apr 1944

Hollandia, New Guinea, 5 Jul 1944  
Leyte, Philippines, 19 Nov 1944  
Clark Field, Luzon, Philippines, Mar 1945  
Okinawa, Ryukyu Islands, 19 Aug 1945  
Seoul, Korea, 19 Oct 1945  
Tachikawa, Japan, 19 Jan 1946  
Kimpo, Korea 10 Jul 1946  
Matsushima, Japan, 1 Aug 1948  
Tachikawa, Japan, 1 Oct 1948-1 Apr 1949  
McGuire AFB, NJ, 1 Jan 1959-1 Oct 1972

### **ASSIGNMENTS**

317 Transport (later Troop Carrier) Group, 15 Jun 1942  
Fifth Air Force, 18 Aug 1948-1 Apr 1949  
New York Air Defense Sector, 1 Jan 1959  
21 Air Division, 1 Apr 1966  
35 Air Division, 1 Dec 1967-1 Oct 1972

### **ATTACHMENTS**

317 Troop Carrier Wing, 18 Aug 1948-1 Apr 1949  
317 Troop Carrier Wing, 18 Aug 1948  
6146 Station Group, 1 Oct 1948  
374 Troop Carrier Wing, 5 Mar-1 Apr 1949

### **WEAPON SYSTEMS**

C-47, 1942-1948  
C-46, 1948-1949  
CIM-10 Bomarc A, 1 Jan 1959  
CIM-10 Bomarc B

### **COMMANDERS**

Lt Col Ernest B. Shepard, #1960

### **HONORS**

#### **Service Streamers**

#### **Campaign Streamers**

World War II  
New Guinea  
Northern Solomons  
Bismarck Archipelago  
Western Pacific  
Leyte  
Luzon

Southern Philippines

## Armed Forces Expeditionary Streamers

### Decorations

Distinguished Unit Citations

Papua [Jan 1943]

New Guinea, 30 Jun-1 Feb 1943

Philippine Islands, 16-17 Dec 1945

### EMBLEM



46 Troop Carrier Squadron emblem: on a light blue disc, a green caricatured plane, propeller hub yellow, piloted by a caricatured figure, wearing tan flight suit, red helmet, white goggles, carrying a second caricatured figure attired as the first, suspended in a hammock by yellow rope from hooks at front and back underside of plane, grasping a “tommy” gun proper. (Approved, 13 Jan 1943)

46 Air Defense Missile Squadron emblem: On a light blue equilateral triangle, one point upwards, spattered with white stars, an AF golden yellow fire ball with a red center issuing from sinister (left) base from which four red missiles radiate to dexter (right), highlights and jet exhaust trails white; outlines and details AF blue throughout; all within a narrow AF blue border. **SIGNIFICANCE:** The emblem is symbolic of the squadron and its mission. Ultramarine blue and Air Force yellow are the Air Force colors. Blue alludes to the sky, the primary theater of Air Force operations. Yellow refers to the sun and the excellence required of Air Force personnel. Against a background of sky blue spattered with stars to represent the primary theater of operations, four red missiles (representing the four steps in air defense: detection, interception, identification, and destruction) issue from a fire ball, all representing the unit's overall mission, to equip, administer, and train assigned or attached personnel and provide a force in a maximum state of readiness for use in air defense. The three sides of the triangle symbolize the respective

tasks performed by operations, materiel, and administration. The emblem bears the squadron colors, blue and golden yellow. (Approved, 5 May 1960)

## **MOTTO**

## **OPERATIONS**

Conducted paratroop drops on Nadzab, New Guinea; Neoemfoor, Papua; Tagaytay, Corregidor, and Aparri, Philippines; as well as aerial transport in the South, Southwest, and Western Pacific, during World War II.

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In 1959, trained personnel and prepared for operation of the BOMARC surface-to-air missiles; operated and maintained BOMARC missiles and associated equipment, trained personnel, and maintained a capability to intercept and destroy hostile aircraft until inactivation.

Organized on paper 1 January 1959, the 46th Air Defense Missile Squadron became a reality on 25 March 1959, when the Commanding Officer, Lt. Col. Ernest B. Shepard and other key personnel arrived at Hurlburt Field, Florida. The new squadron was composed of cross-trainees, factory trainees and retrainees.

The Unit Training Program, with the 4751st Air Defense Missile Squadron technicians acting as instructors, was established for a four months duration. The training program was divided into three phases. During the first phase, the new "Cadre" missilemen were indoctrinated in the Air Defense structure of which the Bomarc IM-99A Weapons System would become an integral part, and delved into the varied aspects of missile operations. Detailed explanation was given of the SAGE, (the controlling agency), Bomarc maintenance and supply concepts, health hazards, and ground safety.

In the second phase, the men of the 46th entered into "Team Training" with their 4751st counterparts; working side by side to obtain specific job knowledge of the complex systems. The third and final phase unfolded when Major James C. Cuddington, 46th ADMS Executive Officer, received a Flag Order directing the 46th to accept, maintain, and process four Bomarc missiles into a firing configuration. The successful completion of this final phase culminated the training program at Hurlburt Field, and demonstrated the new squadron's ability to function as a Tactical Unit.

The 46th set up housekeeping in a seventy-five-acre patch about 12 miles east of McGuire AFB; 7 miles west of Lakehurst, N. J. The site is composed of missile support buildings, an administration building, and the Launch Area. The launch area, or firing line, contains 4 rows of 14 concrete shelters. In each of the shelters lies a dormant Bomarc Missile, requiring periodic maintenance checks to insure its rapid firing capability. The 46th numbers over 300 officers and airmen. The

squadron has met or surpassed every operational requirement placed upon it by higher headquarters this far, and has assumed an enviable position in the weapons family of the Air Defense Command.

On the afternoon of Tuesday, June 7, 1960 at 3:15 pm, a fire broke out in a Bomarc missile launch shelter located in an annex of McGuire Air Force Base. At the time of the fire, the IM-99A Bomarc-A missile was armed with a 10 kiloton W-40 nuclear warhead. The Bomarc-A employed an Aerojet General LR59-AJ-13 liquid-fueled booster and two Marquardt RJ43-MA-3 ramjets for sustained flight. The liquid-fueled booster rockets used hypergolic fuel, meaning that the red fuming nitric acid oxidant and aniline fuel spontaneously explode when mixed. The fuels were stored on board the missile and a helium tank was pressurized at the time of alert during the 15 seconds it took to erect the missile into a vertical launch position. Every 90 days, the missiles were de-fueled, decontaminated and then re-fueled using pressurized helium to 'push' the propellants out of their tanks.

On that balmy spring afternoon in 1960, the Bomarc-A in launch shelter No. 204 suffered a failure of the pressured helium tank. The ensuing pressure shock ruptured propellant tanks causing their contents to spontaneously ignite, and the fire caused the remaining fuel to explode. The explosion sent shrapnel flying and blew off the shelter's corrugated steel roof and steel blast doors. The fire burned fiercely, spewing 20-foot-long blowtorch like flames and black smoke drifted southward, but fortunately there was no telltale 'mushroom cloud'. The intense fire lasted about 45 minutes, destroying the missile and its launch equipment, and melting the shelter's steel structural beams so that they sagged. Unfortunately, when the fire first erupted, an Air Police sergeant stationed at the Plumsted, NJ base excitedly reported the incident to State Police, possibly using the term "atomic explosion," although the exact words spoken were lost in the ensuing commotion. The next day, the commander of the New York Air Defense Sector offered his personal apology for the miscue.

The fire was confined to that one shelter, and none of the neighboring shelters about 30 feet away were affected. It was the fail-safe design of the missile, which prevents the unintentional arming of the nuclear warhead on the ground, that saved New Jersey (and perhaps the eastern part of the United States) from a nuclear disaster. In addition, the bravery and swift response of the McGuire AFB, Fort Dix and local volunteer fire fighters, as well as the Military Police, New Jersey State Police and local emergency personnel, isolated the area to prevent any spread of the fire and potential radiation despite their own potential radiation exposure.

Firefighters continued to pump water on shelter 204 throughout the night to cool down the remains and allow inspection by Air Force and Atomic Energy Commission experts. They found that the fire had caused the missile's aluminum structure to melt and more surprisingly, the nuclear warhead fell into the conflagration and it too was partially melted! By examining the remains of the warhead, the radiation and weapons specialists determined that between 2 and 11 ounces of oxidized plutonium were unaccounted for. Amazingly, a tank of tritium, a heavy hydrogen isotope used to trigger the nuclear reaction, was recovered intact.

Inside the shelter, inspectors needed special suits with respirators to protect them from plutonium's alpha radiation, which registered over 2 million counts. In order to further contain the radiation, the remaining shelter structure and floor were sprayed with a special, thick paint that effectively formed a barrier to the alpha radiation (a far less strong penetrator than the gamma radiation emitted if the warhead had actually detonated). In addition, four inches of concrete was poured on the apron surrounding the entrance to shelter 204. Subsequent exterior measurements showed almost 0 counts per minute. The area around the shelter was fenced off and the McGuire Bomarc base remained active until all Bomarc missiles were decommissioned in 1972.

There still are ramifications from this Cold War incident felt today. The water used to cool the smoldering shelter ran off into a drainage ditch, and although the level of radiation in the surrounding area is higher than normal, it is not particularly hazardous. The Air Force has contracted for the demolition of shelter 204, the digging up of the ground around the shelter to a depth of 20 feet, and the excavation of the drainage ditches and runoff area. As this is being written, work continues on the nearly 9,000 cubic yards of slightly radioactive debris which is being trucked to nearby Lakehurst NAS and loaded onto railcars for shipment to a nuclear waste site in Utah.

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Sources

Air Force Historical Research Agency, U.S. Air Force, Maxwell AFB, Alabama.

The Institute of Heraldry. U.S. Army. Fort Belvoir, Virginia.

Unit yearbook. *New York Air Defense Sector. 1960.*